

NOTE

Subject: EPA Comments on Northern States Power Co, Black Dog Power Station,
Burnsville, MN
Round 7 Draft Assessment Report

To: File

From: Jana Englander, OSWER, US EPA

Date: January 24, 2011

1. It is sufficient to reference the NPDES permit. Please remove the actual permit document from this report.
2. Remove the following blank pages: p. 8, p. 52, p. 92, p. 94, p. 96, p. 98.

State:

From: "Boyle, Jason (DNR)" <Jason.Boyle@state.mn.us>
To: James Kohler/DC/USEPA/US@EPA
Cc: "Zwilling, Dan R (DNR)" <Daniel.Zwilling@state.mn.us>
Date: 02/11/2011 10:21 AM
Subject: RE: Comment Request on Xcel Energy Black Dog Power Station Draft Report

Jim,
Thank you for the report, we have no comments. The MNDNR dam safety program does not currently regulate these impoundments nor do we have them in our inventory of dams.

Jason

Company: See attachment dated March 4, 2011.

Attachment 1

Northern States Power - Minnesota (NSP-M) Response to Draft Report Coal Combustion Waste Impoundment Round 7 – Dam Assessment Report Black Dog Power Station (Site 024) October, 2010

1.0 Conclusions and Recommendations

EPA Observation/ Recommendation:

To paraphrase the Report, a FAIR rating was deemed appropriate given that specific documentation was not provided to make an engineering assessment of the "Structural Integrity" or the "Hydrologic/Hydraulic Adequacy" of the four ponds. The FAIR rating was based on the expectation, as a result of field inspection, that the ponds will perform satisfactorily under all loading conditions.

However, there are three recommendations for continued operation of the facility. These recommendations are as follows:

- 1. The Operator (Xcel Energy) should inspect the ponds at least once per month plus during and after significant rain events and during the rise and fall of the flood events on Black Dog Lake.*
- 2. A Hydrologic and Hydraulic analysis of the four ponds should be completed to evaluate the capacity of the pond's existing spillway system and its ability to handle the 100 year storm event.*
- 3. The West slope vegetation of Ponds 3 and 4, which is adjacent to Black Dog Lake, should be managed to allow for effective inspections.*

Northern States Power-Minnesota (NSP-M) Response:

NSP-M generally agrees with the assessment made by the EPA's Dam Assessment Contractor with regard to its assessment of the Black Dog Power Station (Site 024) Ponds 1 through 4. As identified in Section 2.2, three of the four ponds do not meet the minimum criteria for even a "Small" classification and all of the ponds have a "Low" hazard classification. Two of the ponds (Ponds 3 and 4) have embankments adjacent to Black Dog Lake such that, if they should fail, the spillage would be contained within the lake boundaries. The other two ponds are essentially incised, with no credible structural failure scenario that would result in a catastrophic release.

All of the embankments have performed satisfactorily for the last 35 years and have shown no sign of stress or fatigue. Even without an engineering analysis to evaluate the structural integrity, the fact that the embankments have performed satisfactorily through their life and under widely varied conditions empirically suggests that the pond embankment geometry and construction is adequate.

However, NSP-M accepts the FAIR rating in recognition that there is no direct engineering documentation that demonstrates the “structural integrity” and “Hydrologic and Hydraulic Capacity” of the ponds.

We respond to the Assessment Contractor’s recommendations made in the Assessment Report (Section 1.2) as follows;

1. As indicated in Section 7.3, the plant regularly inspects the ponds as part of the NPDES Site Storm Water Permit. Although we believe these operator inspections would ordinarily be sufficient to identify any adverse conditions in a timely manner, we agree that supplementing this activity with periodic inspections by an engineer would provide additional assurance. NSP-M proposes to add a visual structural integrity component to that inspection program, to be performed by an engineer, which will be implemented biannually in the Spring and Fall. Given that these are low hazard potential structures with a problem free history, as well as the fact it is not practical to perform such inspections from November thru March when there is snow cover, we believe more frequent inspections are not necessary or warranted.
2. Each pond’s watershed is small and effectively results in a raise in pool elevation commensurate with the design storm’s precipitation amount. However, to demonstrate the sufficiency of the capacity of the pond to retain the 100 year storm event, NSP-M will perform a Hydrologic and Hydraulic analysis to demonstrate there is not an issue with the capacity of any of the ponds.
3. The West slope embankment vegetation is a combination of large trees, with extensive root systems and understory brush, the latter having a trunk diameter of less than 2 inches. We agree that the understory brush makes inspection of the embankment along Black Dog Lake difficult. We also agree that the understory brush (vegetation with a trunk diameter less than 2 inches) can be removed without serious adverse impact and would substantially improve the ability to inspect that portion of the embankment. However, we believe removal of the large trees would be detrimental to the embankment and such trees should be retained unless conditions change to the point where they pose a potential risk. The biannual inspections of Item 1 above will monitor for this..

2.0 Proposed Corrections/Additions to Assessment Report

NSP-M has reviewed the Assessment Report and found that in general, the report accurately reflects the state of the Black Dog Power Station (Site 024) ponds. However, the following items are identified from the draft report that NSP-M believes needs to be modified to improve the report's accuracy. NSP-M proposes that the following list of items be modified or added to the final report:

Section 5.3.3/Pg. 5-7: The report indicates that there was no emergency spillway observed. NSP-M confirms that the only outlet from pond 4 is the outfall shown in Figure 5.3.2-1.